AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A catalyst system for the polymerization of α-olefins, the catalyst being prepared by a process including a catalyst activation comprising the contacting of a solid transition metal compound with an organoaluminium compound, and a catalyst prepolymerization comprising the polymerization of a premonomer in the presence of the activated catalyst, ~~characterized in that~~wherein the catalyst activation comprises a first step of contacting the solid transition metal compound with a first organoaluminium compound in the presence of an oil to give a first reaction mixture, and a second step of contacting the first reaction mixture with a second organoaluminium compound to give a second reaction mixture, the second organoaluminium compound being the same as or different from the first organoaluminium compound.

2. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized~~ wherein in that in said first step, a mixture consisting essentially of said solid transition metal catalyst component and said oil is preactivated with said first organoaluminium compound.

3. **(Currently Amended)** ~~A~~ The catalyst system according to claim 1 or 2, ~~characterized~~ whererin in that in said first step, the weight ratio between said solid transition metal compound and said oil is between 0.1 and 5~~, preferably between 0.2 and 1, most preferably between 0.3 and 0.8~~.

4. **(Currently Amended)** ~~A~~The catalyst system according to claim 2, ~~characterized in that in~~ ~~said~~wherein in said first step, said mixture consisting essentially of said solid transition metal compound and said oil has been prepared by heating them together at ~~an elevated temperature, preferably at~~ a temperature between about 26°C and about 100°C~~, most preferably at a temperature between about 30°C and about 80°C~~.

5. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that in~~ wherein in said first step, said solid transition metal compound, said organoaluminum compound and said oil are precontacted at ~~a lowered temperature, preferably at~~ a temperature between -20°C and about +20°C~~, most preferably at a temperature between about 0°C and about +16°C~~.

6. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that in~~wherein in said first step, said organoaluminum compound (Al_l) and said solid transition metal (Tr) compound are contacted in the presence of said at least a part of the oil in an atomic ration Al_l/Tr of between 0.5 and about 5~~, preferably between about 1 and about 3~~.

7. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that in~~wherein in said first step, said first reaction mixture is further contacted with a wax, fat~~,~~ or solid paraffin ~~or the like~~ to give a waxed first reaction mixture.

8. **(Currently Amended)** ~~A~~ The catalyst system according to claim 7, ~~characterized in that in~~wherein in said first step, said wax, fat~~,~~ or solid paraffin ~~or the like~~ is added at higher temperature than its melting point.

9. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that in said second step,~~wherein said first reaction mixture or said waxed first reaction mixture is further activated with said second organoaluminum compound in the second step.

10. **(Currently Amended)** ~~A~~ The catalyst system according to claim 9, ~~characterized~~ **wherein**~~in that~~ in said second step, said first reaction mixture or said waxed first reaction mixture is contacted with an external electron donor.

11. **(Currently Amended)** ~~A~~ The catalyst system according to any of claims 7 to 10, ~~characterized~~ **wherein** ~~in that~~ the weight ratio between the total amount of said oil and the total amount of said wax, fat, or solid paraffin ~~or the like~~ is such that the viscosity of their mixture at 20-25 °C is about 1 Pa·s to about 15 Pa·s~~, preferably about 4 Pa·s to about 10 Pa·s~~.

12. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein the atomic ratio between the aluminum (Al_1) of said first organoaluminum compound Al_1/Al_2 is between about 0.0001 and about 1~~, preferably between about 0.01 and about 0.1~~.

13. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein the atomic ratio between the aluminum (Al) of the total amount of or organoalumminum compound and the transition metal (Tr) of the solid transition metal compound Al/Tr is between about 10 and 1000~~, preferably between about 50 and 500~~.

14. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein said solid transition metal compound has been prepared by contacting at least magnesium dichloride or a complex thereof, titanium tetrachloride and an internal electron donor.

15. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein said first organoaluminum compound has the formula (I):

$R_{3m-n}Al_mX^n$

Wherein R is a C_1-C_{12} alkyl, X is a halogen, m is 1 or 2 and $0 \leq n \leq (3m-1)$~~, and preferably is a trialkyl aluminum, most preferably triethyl aluminum TEA~~.

16. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein said second organoaluminum compound is the same as said first organoaluminum compound.

17. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein in the prepolymerization, the premonomer is polymerized in the presence of at least said second reaction mixture to give a prepolymerizate.

18. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein in the prepolymerization, the atomic ratio Al_{1+2}/Tr between, on one hand, the aluminum (Al_2) of said second organoaluminum compound and the aluminum (Al_1) if first organoaluminum compound taken together, and, on the other hand, the transition metal (Tr) if said transition metal compound, is from about 1 to about 10~~, preferably from about 3 to about 8~~.

19. **(Currently Amended)** ~~A~~The catalyst system according to claim 1, ~~characterized in that~~wherein in prepolymerization, the amount of said olefin premonomer is such that the obtained

weight ratio between the prepolymer obtained therefrom and said solid transition metal catalyst compound is between 1 and 10~~, preferably between 1 and 5~~.

20. **(Currently Amended)** ~~A~~ The catalyst system according to claim 1, ~~characterized in that~~wherein in the prepolymerization, said olefin premonomer is ethene.

21. **(Currently Amended)** ~~A~~The process for the polymerization of an olefin, ~~characterized in that~~wherein an α-olefin is contacted with a catalyst system according to claim 1.

22. **(Currently Amended)** ~~A~~ The process according to claim 21, ~~**characterized** in that~~**wherein** said α-olefin is a C_3-C_6-α-olefin or a mixture thereof~~,~~ ~~preferably propene or a mixture of propene and less than 20% by weight of ethene~~.

23. **(Currently Amended)** ~~A~~The process according to claim 21 or 22, ~~**characterized** in that~~**wherein** said α-olefin is copolymerized with another α-olefin monomer or ethene.

24. **(Currently Amended)** ~~A~~The process according to claim 21 or 22, ~~characterized in that~~wherein the olefin is contacted with a third organoaluminum compound.

25. **(Currently Amended)** ~~A~~ The process according to claim 24, ~~**characterized** in that~~**wherein** the third organoaluminium compound is the same as said first and/or second organoaluminium compound.

26. **(Currently Amended)** ~~A~~The process according to claim 24, ~~characterized in that~~wherein the total amount of aluminum Al~~)~~ is such that the atomic ratio Al/Tr is 40-1000~~, preferably about 50 to about 500~~.

27. **(Currently Amended)** ~~A~~The process according to claim 21, ~~characterized in that~~wherein hydrogen is contacted with said catalyst system and said olefin under polymerization conditions, preferably in an amount giving propylene polymer having a melt flow rate MFR_2 of between 0.3 g/10 min and 2000 g/10 min~~, more preferably 0.3-1000 g/10 min, most preferably between 1.0 g/10 min and 400 g/10 min~~.

28. (New) The catalyst system according to claim 3, wherein the weight ratio is between 0.2 and 1.

29. (New) The catalyst system according to claim 3, wherein the weight ratio is between 0.3 and 0.8.

30. (New) The catalyst system according to claim 4, wherein the mixture has been prepared at a temperature of between about 30 °C and about 80 °C.

31. (New) The catalyst system according to claim 5, wherein the precontacting step is carried out at a temperature of between 0 °C and about +16 °C.

32. (New) The catalyst system according to claim 6, wherein the atomic ratio of Al_1/Tr is between about 1 and about 3.

33. (New) The catalyst system according to claim 11, wherein the viscosity of the mixture is about 4 Pa·s to about 10 Pa·s.

34. (New) The catalyst system according to claim 12, wherein the atomic ratio between the aluminum (Al_1) of said first organoaluminum compound Al_1/Al_2 is between about 0.01 and about 0.1.

35. (New) The catalyst system according to claim 13, wherein the atomic ratio between the aluminum (Al) of the total amount of the organoaluminum compound and the transition metal (Tr) of the solid transition metal compound Al/Tr is between about 50 and 500.

36. (New) The catalyst system according to claim 15, wherein the first organoaluminum compound according to formula (I) is a trialkyl aluminum.

37. (New) The catalyst system according to claim 15, wherein the first organoaluminum compound according to formula (I) is triethyl aluminum TEA.

38. (New) The catalyst system according to claim 18, wherein the atomic ratio Al_{1+2}/Tr is from about 3 to about 8.

39. (New) The catalyst system according to claim 19, wherein the obtained weight ratio between the prepolymer obtained and the solid transition metal catalyst compound is between 1 and 5.

40. (New) The catalyst system according to claim 22, wherein the α-olefin is propene or a mixture of propene and less than 20% by weight of ethane.

41. (New) The process according to claim 26, wherein the atomic ratio Al/Tr is about 50 to 500.

42. (New) The process according to claim 27, wherein the melt flow rate MFR_2 is 0.3-1000 g/10 min.

43. (New) The process according to claim 27, wherein the melt flow rate MFR_2 is between 1.0 g/10 min and 400 g/10 min.